CLAIMS

1. Method of receiving a signal transmitted by a transmitter (k) and arriving at an array of antennae (300) after having propagated along a plurality of paths (i), comprising a filtering stage (310_k) decomposing each antenna signal into separate signals ($x_{\ell,i,k}$) issuing from the different paths, a channel formation step (320_k) forming path signals ($y_{i,k}$) from the said separate signals by means of a first set of complex coefficients ($b_{\ell,i,k}$), a combination step (340_k) linearly combining the said path signals by means of a second set of complex coefficients ($c_{i,k}$) in order to supply a combined signal (z_k), the method being characterised in that a plurality of first error signals ($\varepsilon'_{i,k}$) are formed (331_k) between a reference value (q_k) of the signal transmitted and the said path signals ($y_{i,k}$) and in that a second error signal (ε''_k) is formed (351_k) between the said reference value and the said combined signal (z_k), the first and second sets of complex coefficients being adapted (330_k, 350_k) so as to respectively minimise the root mean square values of the first signals and of the second error signal.

2. Reception method according to Claim 1, characterised in that, the transmitted signal comprising modulated data in the form of symbols, the reference value is a pilot symbol (p_k) .

3. Reception method according to Claim 1, characterised in that, the transmitted signal comprising modulated data in the form of symbols, the method also includes a step (360_k) of estimating the transmitted symbol from the combined signal (z_k), the said reference value then being an estimated value ($\hat{s}_k$) of the transmitted symbol.

4. Reception method according to Claim 1, characterised in that, the transmitted signal comprising modulated data in the form of symbols, the method

also includes a step (360_k) of estimating the transmitted symbol from the combined signal (z_k), a step (370_k) comprising a demodulation of the estimated symbol into estimated data, a deinterleaving and a channel decoding of the said data ($\hat{d}_k$), a step (380_k) comprising a channel recoding of the decoded data followed by an interleaving and a modulation of the said data in order to supply a re-estimated value ($\hat{s}'_k$) of the transmitted symbol, the reference value then being chosen so as to be equal to the said re-estimated value.

5. Reception method according to one of the preceding claims, characterised in that the first set of complex coefficients is adapted according to an algorithm of the LMS or RLS type.

6. Reception method according to Claim 5, characterised in that the second set of complex coefficients is adapted according to an algorithm of the LMS or RLS type.

7. Reception method according to Claim 5 or 6, characterised in that the first set of coefficients is initialised with the values $b_{\ell,i,k}(0)=\delta(\ell-\ell_0),\forall i$ and the second set of coefficients is initialised with the values $c_{i,k}(0)=c,\forall i$ where δ is the Dirac symbol, ℓ_0 is an antenna number and c a given complex coefficient.

8. Reception method according to Claim 5 or 6, characterised in that the first set of coefficients is initialised by means of a prior estimation of the directions of arrival of the said paths and the phase rotations undergone by the signal along the said paths.

9. Reception method according to Claim 8, characterised in that the second set of coefficients is initialised by means of a prior estimation of the attenuations undergone by the signal along the said paths.

10. Device for receiving a signal transmitted by a transmitter (k), the device comprising an array of antennae (300), characterised in that it comprises means

adapted to the implementation of the steps of the method according to one of the preceding claims.